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10 30 50
CGATCGCCCAGCACCAAGTCCGCTTCCAGGCTTTCGGTTTCTTTGCCTCCATCTTGGGTG
70 90 110
CGCCTTCCCGGCGTCTAGGGGAGCGAAGGCTGAGGTGGCAGCGGCAGGAGAGTCCGGCCG
130 150 170
CGACAGGACGAACTCCCCACTGGAAAGGATTCTGAAAGAAATGAAGTCAGCCCTCAGAA
190 210 230
ATGAAGTTGACTGCCTGCTGGCTTTCTGTTGACTGGCCCGGAGCTGTACTGCAAGACCCT
250 270 290
TGTGAGCTTCCCTAGTCTAAGAGTAGGATGTCTGCTGAAGTCATCCATCAGGTTGAAGAA
310 330 350
GCACTTGATACAGATGAGAAGGAGATGCTGCTCTTTTGTGCCGGGATGTTGCTATAGAT
A L D T D E K E M L L F L C R D V A I D
370 390 410
GTGGTTCCACCTAATGTCAGGGACCTTCTGGATATTTTACGGGAAAGAGGTAAGCTGTCT
V V P P N V R D L L D I L R E R G K L S
430 450 470
GTCGGGGACTTGGCTGAACTGCTCTACAGAGTGAGGCGATTGACCTGCTCAAACGTATC
V G D L A E L L Y R V R R F D L L K R I
490 510 530
TTGAAGATGGACAGAAAAGCTGTGGAGACCCACCTGCTCAGGAACCTCACCTTGTTCG
L K M D R K A V E T H L L R N P H L V S
550 570 590
GACTATAGAGTGCTGATGGCAGAGATTGGTGAGGATTGGATAAATCTGATGTGTCCTCA
D Y R V L M A E I G E D L D K S D V S S
610 630 650
TTAATTTTCCTCATGAAGGATTACATGGGCCGAGGCAAGATAAGCAAGGAGAAGAGTTTC
L I F L M K D Y M G R G K I S K E K S F
670 690 710
TTGGACCTTGTGGTTGAGTTGGAGAACTAAATCTGGTTGCCCCAGATCAACTGGATTTA
L D L V V E L E K L N L V A P D Q L D L
730 750 770
TTAGAAAAATGCCTAAAGAACATCCACAGAATAGACCTGAAGACAAAAATCCAGAAGTAC
L E K C L K N I H R I D L K T K I Q K Y
790 810 830
AAGCAGTCTGTTCAAGGAGCAGGGACAAGTTACAGGAATGTTCTCCAAGCAGCAATCCAA
K Q S V Q G A G T S Y R N V L Q A A I Q
850 870 890
AAGAGTCTCAAGGATCCTTCAAATAACTTCAGGCTCCATAATGGGAGAAGTAAAGAACAA
K S L K D P S N N F R L H N G R S K E Q
910 930 950
AGACTTAAGGAACAGCTTGGCGCTCAACAAGAACCAAGTGAAGAAATCCATTAGGAATCA
R L K E Q L G A Q Q E P V K K S I Q E S
970 990 1010
GAAGCTTTTTTGCCTCAGAGCATACCTGAAGAGAGATACAAGATGAAGAGCAAGCCCCTA
E A F L P Q S I P E E R Y K M K S K P L
1030 1050 1070

FIG.1A

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GGAATCTGCCTGATAATCGATTGCATTGGCAATGAGACAGAGCTTCTTCGAGACACCTTC
G I C L I I D C I G N E T E L L R D T F
1090 1110 1130
ACTTCCCTGGGCTATGAAGTCCAGAAATCTTGCATCTCAGTATGCATGGTATATCCCAG
T S L G Y E V Q K F L H L S M H G I S Q
1150 1170 1190
ATTCTTGGCCAATTTGCCTGTATGCCCGAGCACCAGACTACGACAGCTTTGTGTGTGTC
I L G Q F A C M P E H R D Y D S F V C V
1210 1230 1250
CTGGTGAGCCGAGGAGGCTCCAGAGTGTGTATGGTGTGGATCAGACTCACTCAGGGCTC
L V S R G G S Q S V Y G V D Q T H S G L
1270 1290 1310
CCCCCTGCATCACATCAGGAGGATGTTTCATGGGAGATTTCATGCCCTTATCTAGCAGGGAAG
P L H H I R R M F M G D S C P Y L A G K
1330 1350 1370
CCAAAGATGTTTTTATTGAGAACTATGTGGTGTGTCAGAGGGCCAGCTGGAGGACAGCAGC
P K M F F I Q N Y V V S E G Q L E D S S
1390 1410 1430
CTCTTGAGGTGGATGGGCCAGCGATGAAGAATGTGGAATTCAAGGCTCAGAAGCGAGGG
L L E V D G P A M K N V E F K A Q K R G
1450 1470 1490
CTGTGCACAGTTCACCGAGAAGCTGACTTCTTCTGGAGCCTGTGTACTGCGGACATGTCC
L C T V H R E A D F W S L C T A D M S
1510 1530 1550
CTGCTGGAGCAGTCTCACAGCTACCGTCCCTGTACCTGCAGTGCCTCTCCAGAACTG
L L E Q S H S S P S L Y L Q C L S Q K L
1570 1590 1610
AGACAAGAAAGAAAACGCCCACTCCTGGATCTTCACATTGAACTCAATGGCTACATGTAT
R Q E R K R P L L D L H I E L N G Y M Y
1630 1650 1670
GATTGGAACAGCAGAGTTTCTGCCAAGGAGAAATATTATGTCTGGCTGCAGCACACTCTG
D W N S R V S A K E K Y Y V W L Q H T L
1690 1710 1730
AGAAAGAACTTATCCTCTCCTACACATAAGAAACCAAAGGCTGGGCGTAGTGGCTCGC
R K K L I L S Y T *
1750 1770 1790
ACCTGTAATCCCAGCACTTTGGGAGGCCAAGGAGGGCGGATCACTTCAGGTCAGGAGTTC
1810 1830 1850
GAGACCAGCCTGGCCAACATGGTAAACGCTGTCCCTAGTAAGAGTGCAAAAATTAGCTGG
1870 1890 1910
GTGTGGGTGTGGGTACCTGTGTTCCAGTTACTTGGGAGGCTGAGGTGGGAGGATCTTTT
1930 1950 1970
GAACCCAGGAGTTCAGGGTCATAGCATGCTGTGATTGTGCCTACGAATAGCCACTGCATA
1990 2010 2030
CCAACCTGGGCAATATAGCAAGATCCCATCTTTTAAAAAAAAAAAAAAAAAAAAA

FIG.1B

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1	MD-----F SRNLYDI EDL DSEDL ASLK	huFLICE (U58143)
1	MKSQGGH WYSSSDKNCKVS FREKLL I L DSNL GVQDV ENLK	HuMch4 (U60519)
1	MSAEVIH-----QVEEALDTDEKEMLL	HSALZ11Xprotein
1	M-----	HCEBJ50XXprotein
24	FLSLDYIPQRKQEP IKDALM FQRLEKRM L EESNLSFLK	huFLICE (U58143)
41	FLQIGLVPNKKLEKSSS ASDVFEHLLAEDLLSEEDPFFLA	HuMch4 (U60519)
23	FLCRDVAIDVPPNVRD---LLDILRERGKLSVGD---LA	HSALZ11Xprotein
2	-----	HCEBJ50XXprotein
64	ELLFRINRLDLLITYLNTRKEEMERELQTPGRAQISAYR	huFLICE (U58143)
81	ELLYIIRQKKLL-QHLNCTKEEVE-RLL--PTRQRVSLFR	HuMch4 (U60519)
57	ELLYRVRRFDLLKRILKMDRKAVETHLLRNP--HLVSDYR	HSALZ11Xprotein
2	-----	HCEBJ50XXprotein
103	VMLYQITSEEVSRSELRSFKFLIQEEISKOKLDDDMNLDTI	huFLICE (U58143)
117	NLLYELSEGIDSENLKDMIFLLKDSLPK----T EMTSLSF	HuMch4 (U60519)
95	VLMAEIGEDLDKSDVSSLIFLMKDYMGRGKISKEKSFLDL	HSALZ11Xprotein
2	---AEIGEDLDKSDVSSLIFLMKDYMGRGKISKEKSFLDL	HCEBJ50XXprotein
143	F I E M E K R V I L G E G K L D I L K R V C A G I N K S L L K I - I N D Y ---	huFLICE (U58143)
153	L A F L E K Q G K I D E D N L T C L E D L C K T V V P K L L R N - I E K Y K --	HuMch4 (U60519)
135	V V E L E K L N L V A P D Q L D L L E K C L K N I H R I D L K T K I Q Y K Q S	HSALZ11Xprotein
39	V V E L E K L N L V A P D Q L D L L E K C L K N I H R I D L K T K I Q Y K Q S	HCEBJ50XXprotein

FIG.2A

179	-----EEFSKERSSLEEGSPDEFS-----NGEELC	huFLICE (U58143)
190	-----REKAIQIVTPPVDKAEASYQ-----GEEL-	HuMch4 (U60519)
175	VQGAGTSYRNVLQAAIQKSLKDPSNNFRHNGRSKEQRLK	HSALZ11Xprotein
79	VQGAGTSYRNVLQAAIQKSLKDPSNNFR-----	HCEBJ50XXprotein
204	GVMTISDSPREQDSFSQT-----LDKVVQMKSKPRGYC	huFLICE (U58143)
215	----VSQTDVKTFLEALP-----RAAVYRMNRNHRGLC	HuMch4 (U60519)
215	EQLGAQQEPVKKSIQSEAFLPQSIPEERYKMKSKPLGIC	HSALZ11Xprotein
107	-----EFPVKKSIQSEAFLPQSIPEERYKMKSKPLGIC	HCEBJ50XXprotein
237	LIINNHFAKAREKVPKLHSIRDRNGTHDAGALTITFEE	huFLICE (U58143)
244	VIIVNNHSFT-----SKDRQGTHKDAEILSHVFQW	HuMch4 (U60519)
255	LIIDCIG-----NETELLRDTFTS	HSALZ11Xprotein
141	LIIDCIG-----NETELLRDTFTS	HCEBJ50XXprotein
277	LHFEIKPHDDCTVEQIYEILKIYQ-LMDHSNMDCFIQCIL	huFLICE (U58143)
274	LGFTVMHIHNNVTKVEMEMVLQKQKCNPAHADGDCFVFCIL	HuMch4 (U60519)
274	LGYEVQKFLHLSMHGISQILGQFACMPEHRDYDSFVCVLV	HSALZ11Xprotein
160	LGYEVQKFLHLSMHGISQILGQFACMPEHRDYDSFVCVLV	HCEBJ50XXprotein
316	SHGDKGI IYGTIDGQEP--PIYELTSQFTGLKCPSLAGKPK	huFLICE (U58143)
314	THGRFGAVYSSDEALI--PIREIMSHFTALQCPRAEKPK	HuMch4 (U60519)
314	SRGGSQSVYGVDDQTHSGLPLHHIRRMFMGDSCPYLAGKPK	HSALZ11Xprotein
200	SRGGSQSVYGVDDQTHSGLPLHHIRRMFMGDSCPYLAGKPK	HCEBJ50XXprotein

FIG.2B

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354	VFFIQAC--QG	DNYQKGIPVETD	SEEQPYLEMDLSSPQTR	huFLICE(U58143)
352	LFFIQAC--QG	EIQPSVSI	EADALNPEQAPTSLSQDS---	HuMch4(U60519)
354	MFFIQNYVVSE	GQLEDSSLLEV	DGPAMKNVEFKAQKRGLC	HSALZ11Xprotein
240	MFFIQNYVVS	DGQLEDSSLLEV	DGPAMKNVEFKAQKRGLC	HCEBJ50XXprotein

392	YIPDEADFL	GMATVNNCM	SYRNP	AEGTWYIQSL	QSLRE	huFLICE(U58143)
387	-IPAEADFL	GLATVPGYM	SFRHVEEG	SWYIQSL	CNHLKK	HuMch4(U60519)
394	TVHREADFF	WSLCTADMS	LEQSHSS	PSLYLQCL	SQKLRLQ	HSALZ11Xprotein
280	TVHREADFF	WSLCTADMS	LEQSHSS	PSLYLQCL	SQKLRLQ	HCEBJ50XXprotein

432	RCPRGDD	ILTEVN	YEVS	NKDDK	KNMGKQMPQ	PTFTL	huFLICE(U58143)
426	LVPRHED	ILSILTAVN	DDVS	RRVDK	QGT	KKQMPQPAFTL	HuMch4(U60519)
434	--ERKRPL	LDLHIEL	NGMYD	WNSRVS	AK	EKYVWLQHTL	HSALZ11Xprotein
320	--ERG	-----	TIPG	-----	SGITESK	DMHFSSLGCIL	HCEBJ50XXprotein

471	RKKLVFP	-----	SD	huFLICE(U58143)
465	RKKLVFP	VPLDALSI		HuMch4(U60519)
472	RKKLIL	-----	SYT	HSALZ11Xprotein
345	-----	L-----	DVLO	HCEBJ50XXprotein

FIG.2C

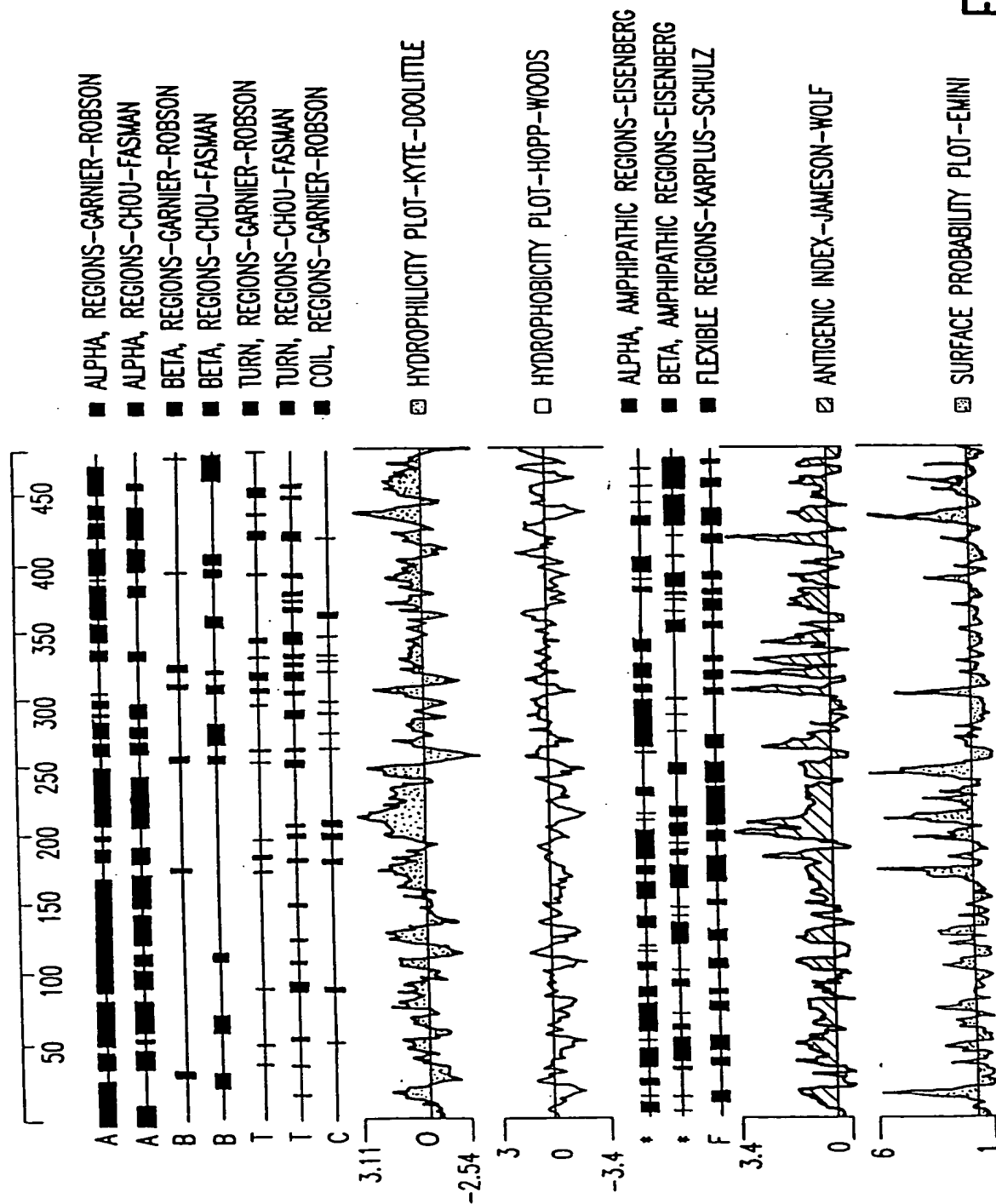


FIG.3

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      10              30              50
GCGAGCTTGCAGCCTCACCGACGAGTCTCAACTAAAAGGGACTCCCGGAGCTAGGGGTGG

      70              90              110
GGA CT CGG CCTCACACAGTGATTGCCGGCTATTGGACTTTTGTCCAGTGACAGCTGAGAC

      130             150             170
AAC AAGGACCACGGGAGGAGGTGTAGGAGAGAAGCGCCGCGAACAGGCATCGCCCAGCAC

      190             210             230
CAAGTCCGCTTCCAGGCTTTCGGTTTCTTGCCTCCATCTTGGGTGCGCCTTCCCGGCGT

      250             270             290
CTAGGGGAGCGAAGGCTGAGGTGGCAGCGGCAGGAGAGTCCGGCCGCGACAGGACGAGTG

      310             330             350
CTGATGGCAGAGATTGGTGAGGATTTGGATAAATCTGATGTGTCCTCATT AATTTTCCTC
  M A E I G E D L D K S D V S S L I F L

      370             390             410
ATGAAGGATTACATGGGCCGAGGCAAGATAAGCAAGGAGAAGAGTTTCTTGGACCTTGTG
  M K D Y M G R G K I S K E K S F L D L V

      430             450             470
GTTGAGTTGGAGAAACTAAATCTGGTTGCCCCAGATCAACTGGATTTATTAGAAAAATGC
  V E L E K L N L V A P D Q L D L L E K C

      490             510             530

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FIG.4A

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CTAAAGAACATCCACAGAATAGACCTGAAGACAAAAATCCAGAAGTACAAGCAGTCTGTT
L K N I H R I D L K T K I Q K Y K Q S V
550 570 590
CAAGGAGCAGGGACAAGTTACAGGAATGTTCTCCAAGCAGCAATCCAAAAGTCTCAAG
Q G A G T S Y R N V L Q A A I Q K S L K
610 630 650
GATCCTTCAAATAACTTCAGGGAAGAACCAAGTGAAGAAATCCATTGAGGAATCAGAAGCT
D P S N N F R E E P V K K S I Q E S E A
670 690 710
TTTTTGCCTCAGAGCATACCTGAAGAGAGATACAAGATGAAGAGCAAGCCCCTAGGAATC
F L P Q S I P E E R Y K M K S K P L G I
730 750 770
TGCCTGATAATCGATTGCATTGGCAATGAGACAGAGCTTCTTCGAGACACCTTCACTTCC
C L I I D C I G N E T E L L R D T F T S
790 810 830
CTGGGCTATGAAGTCCAGAAATTCTTGCATCTCAGTATGCATGGTATATCCCAGATTCTT
L G Y E V Q K F L H L S M H G I S Q I L
850 870 890
GGCCAATTTGCCTGTATGCCCCGAGCACCGAGACTACGACAGCTTTGTGTGTGTCTGGTG
G Q F A C M P E H R D Y D S F V C V L V
910 930 950
AGCCGAGGAGGCTCCCAGAGTGTGTATGGTGTGGATCAGACTCACTCAGGGCTCCCCCTG
S R G G S Q S V Y G V D Q T H S G L P L
970 990 1010
CATCACATCAGGAGGATGTTTCATGGGAGATTTCATGCCCTTATCTAGCAGGGAAGCCAAAG
H H I R R M F M G D S C P Y L A G K P K
1030 1050 1070
ATGTTTTTTTATTCAGAACTATGTGGTGTGACAGCGCCAGCTGGAGGACAGCAGCCTCTTG
M F F I Q N Y V V S D G Q L E D S S L L
1090 1110 1130
GAGGTGGATGGGCCAGCGATGAAGAATGTGGAATTCAAGGCTCAGAAGCGAGGGCTGTGC
E V D G P A M K N V E F K A Q K R G L C
1150 1170 1190
ACAGTTCACCGAGAAGCTGACTTCTTCTGGAGCCTGTGTACTGCGGACATGTCCCTGCTG
T V H R E A D F F W S L C T A D M S L L
1210 1230 1250
GAGCAGTCTCACAGCTCACCGTCCCTGTACCTGCAGTGCCTCTCCCAGAACTGAGACAA
E Q S H S S P S L Y L Q C L S Q K L R Q
1270 1290 1310
GAAAGGGGGACAATTCCCGGAAGTGGAAATTACAGAGTCAAAGGACATGCATTTTCAAGC
E R G T I P G S G I T E S K D M H E S S
1330 1350 1370
CTCGGATGCATCTTACTAGATGTCCTATAGGATGGTCATATCAGCTTTATAGGAGAGTAG
L G C I L L D V L *
1390 1410 1430
CTGTGTCCCTGAATTCTCCCTGACACTGCATGCTCTTATATTTCTCAAGTTTTGACAAT
1450 1470 1490
TTGATAGGTGAAAAGTGGTATCTGACTGTTTCAGATCTGGAAGGCTTTGTTATATAAACAT
1510 1530 1550
TTTTTTAATGTTTATTGGCAAGAATACTTTTCTAAGAGAAACATCAGTGAGCTGGTTTCC
1570 1590 1610
ATTTAAGCTGAATGAAGCCACAATGTACCTCAAGTATAAGATTAAGTGGCCTTTTTCAGT
1630 1650 1670
TGCACTCTAATTACAATTTAGAATGATGTTTCTGAGCCACCTGTCAAATGCATTCTGGGC

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FIG.4B

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1690 1710 1730
TGTACCTCTGCGTACCCAGGAATAAATCTCATGGCCTTCTTTACCTGGCCTCCTTAGTG
1750 1770 1790
GTGGCCAGCAGGAAGCGGGGGTTAGAGCAGGAGCCACTCAGCCTTCCAAGATAGATACT
1810 1830 1850
CCATGGGCCGGTGGTATTACTGGCCTTTTGAGCCCATCCCCATTTGCATAGATGATCCAC
1870 1890 1910
GTGGGTATCATCTGGCTGGTATGTTCCAGAGTGAACTCAGCAGCCCCTTGAGGGAGG
1930 1950 1970
GGATGGTGGCCATCAGGCCAGAGTATTGCAAGTTAGTTTGGATCATTTGCTAAGCAGCTT
1990 2010 2030
GTGGTGCCCTTCAGAAAGGAACAGTTTCAAAGAACTTTCACATCTGTTGGCTCATTTGCC
2050 2070 2090
CTAATGACAGTCTTCTCTTTGATATTTGCATGGCATTAAATTTGCCTTTCTTGTTTTCT
2110 2130 2150
CCAGAAAACGCCCACTCCTGGATCTTCACATTGAACTCAATGGCTACATGTATGATTGGA
2170 2190 2210
ACAGCAGAGTTTCTGCCAAGGAGAAATATTATGTCTGGCTGCAGCACACTCTGAGAAAGA
2230 2250 2270
AACTTATCTCTCCTACACATAAGAAACCAAAGGCTGGGCGTAGTGGCTCGCACCTGTGA
2290 2310 2330
TCCCAGCACTTTGGGAGGCCGAGGAGGGCGGATCACTTCAGGTCGGGAGTTCGAGACCAG
2350 2370 2390
CCTGGCCAGCATGTGAACGCTGTCCCTAGTAGAAGTGCAAAAATTGGCTGGTGTGGGTGT
2410 2430 2450
GGGTACCCTGTATTCCCAGTTGCTTGGGGGGCTGAGGTGGGAGGATCTTTTGACCCCAGG
2470 2490 2510
AGTTCAGGGTCATAGCATGCTGTGATTGTGCCTACGAATAGCCACTGCATACCAACCTGG
2530 2550 2570
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2590
AAAAAAAAAAAAAAAAAAAA

FIG.4C

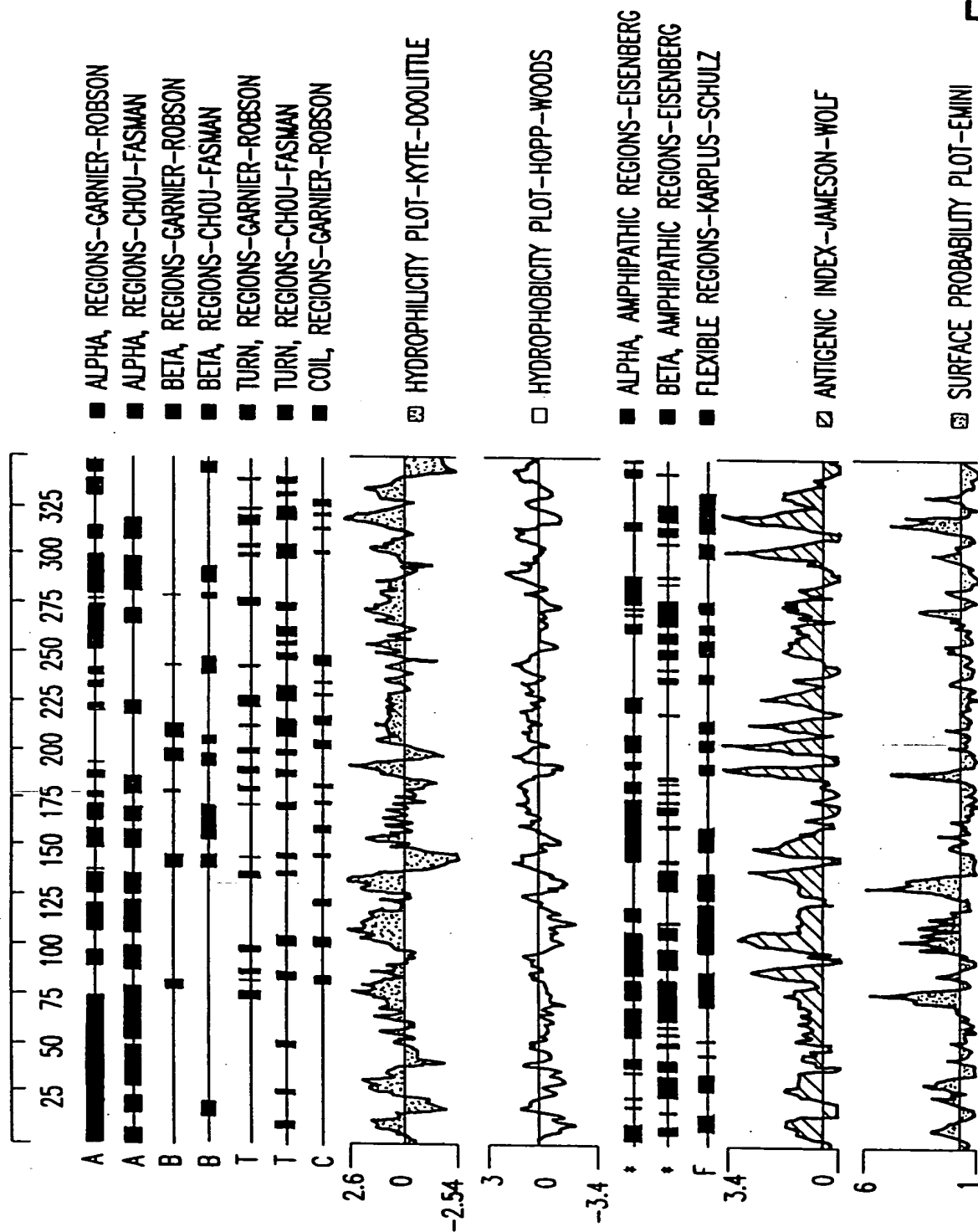


FIG.5

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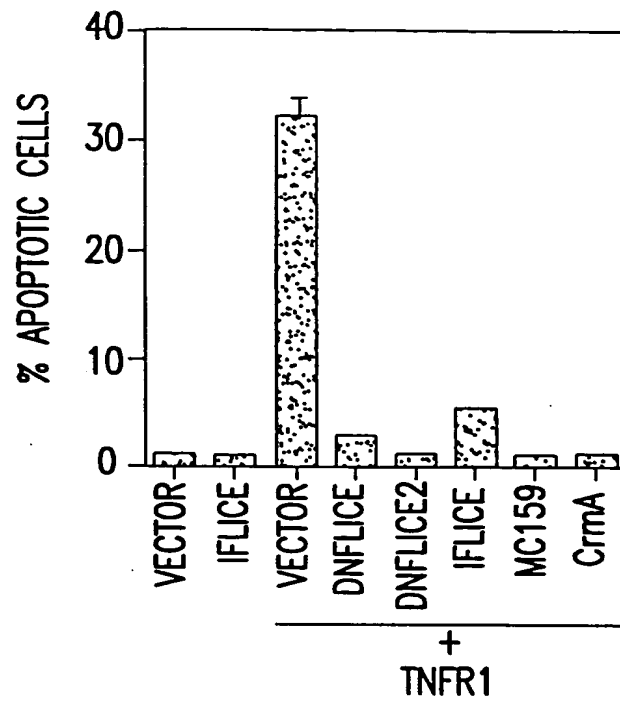


FIG.6A

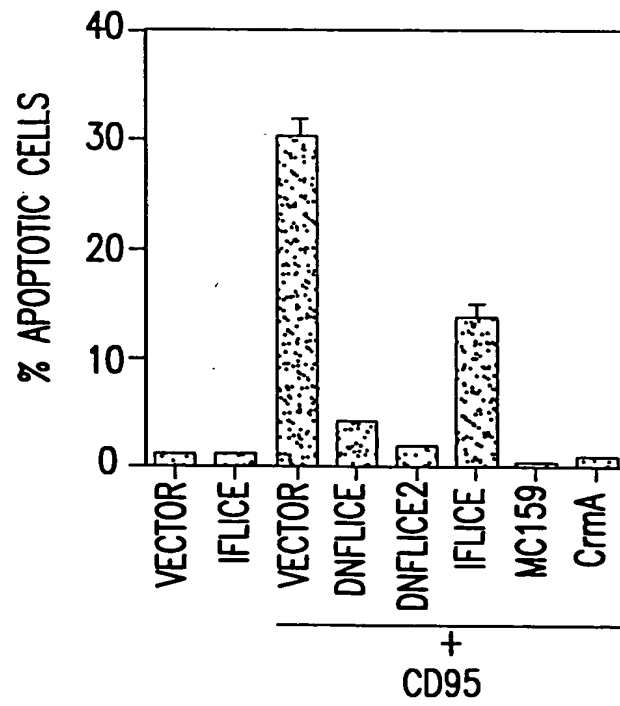


FIG.6B